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June 16, 2005

Mail Stop Amendment
Commissioner for Patents
Post Office Box 1450
Alexandria, VA 22313-1450

Re: U.S. Patent Application of David Ling, et al.
Entitled: Process for Making Ratchet Wheels
Serial No.: 10/774,120
Filed: February 6, 2004
Our File: 17745/09222

Dear Sir:

The following are being transmitted herewith:

1. Transmittal sheet (original plus 1 copy - 2 sheets)
2. Response to Restriction Requirement (7 sheets)
3. Return postcard

file

Please charge any deficiency or credit any overpayment required by this action to our deposit account no. 50-1196, for which purpose an extra copy of this transmittal letter is attached.

Very truly yours,

Kenneth C. Bruley
Reg. No. 51,504

Certificate of Mailing

I hereby certify that this paper and any referenced attachment and/or fee are being deposited with the U.S. Postal Service as first class mail in an envelope addressed to: Commissioner for Patents Post Office Box 1450, Alexandria, VA 22313-1450.

Date of Deposit June 16, 2005

Jesse S. Emerson

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Adjustment date: 11/10/2005 SDENB081
06/27/2005 ASINGLET 00000001 501196 10774120
01 FC:1201 800.00 SR

Deposit Account Statement



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Deposit Account Statement**Requested Statement Month:** June 2005**Deposit Account Number:** 501198

Name: NELSON MULLINS RILEY & SCARBOROUGH, L.L.P.
Attention: MARK C DUKES
Address: P O BOX 11070
City: COLUMBIA
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Zip: 29211
Country: UNITED STATES OF AMERICA

DATE SEQ	REF	POSTING ATTORNEY	DOCKET	FEE CODE	AMT	BAL
	TXT		NBR			
06/01	1008	78640746	20856/09045-TM	7001	\$325.00	\$7,046.00
06/08	772	76524068	20856/09032-TM	7003	\$100.00	\$6,946.00
06/08	829	76524066	20856/09032-TM	7004	\$150.00	\$6,796.00
06/10	862	76143596	03752/09588-TM	7003	\$100.00	\$6,696.00
06/13	1	10130010	HL/95-22238/	1484	-\$130.00	\$6,826.00
06/13	2	10130010	HL/95-22238/	2801	-\$395.00	\$7,221.00
06/13	98	11148582	03752/09716	1202	\$50.00	\$7,171.00
06/14	13	10962210		9204	-\$105.00	\$7,276.00
06/16	1	11046736	11283/09018-DIV-CON-DIV	1814	\$130.00	\$7,146.00
06/16	5	76524068	20856/09032-TM	7003	-\$100.00	\$7,246.00
06/16	6	76977629	20856/9032-TM	6003	\$100.00	\$7,146.00
06/27	1	10774120		1201	\$800.00	\$8,346.00
06/27	47	10684639	16147/09002 CON	1801	\$790.00	\$5,556.00

START BALANCE	SUM OF CHARGES	SUM OF REPLENISH	END BALANCE
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2005 SEP 19 PM 3:08
US PATENT & TRADEMARK
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September 16, 2005

Via Facsimile (571) 273-6500

Mail Stop 16
 Director of the US Patent and Trademark Office
 Office of Finance – Refund Section
 P.O. Box 1450
 Alexandria, VA 22313-1450

Re: Nelson Mullins Riley & Scarborough, LLP Deposit Account No. 50-1196
 U.S. Patent Application 10/774,120
 Entitled: "Process for Making Ratchet Wheels"
 Our Ref.: 17745/09222

Dear Sir or Madam:

Applicant respectfully requests a refund of an \$800.00 fee charged to our deposit account for two additional independent claims in the above-referenced application. Applicant filed a response to a restriction requirement on June 16, 2005, with no new additional claims added.

A copy of the Response to Restriction Requirement and Deposit Account Statement is enclosed.

Accordingly, Applicant respectfully requests a refund of the \$800.00 additional independent fee charged to deposit account no. 50-1196.

Very truly yours,

NELSON, MULLINS, RILEY &
SCARBOROUGH

 Kenneth C. Bruley
KCB/ab
Enclosures

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Facsimile Cover Sheet

TO:	<u>Office of Finance - Refund Section</u>	FAX No. <u>571-273-6500</u>
COMPANY:	<u>US Patent and Trademark Office</u>	PHONE No. _____
LOCATION:	<u>Alexandria, VA</u>	PAGES: <u>11</u> including cover sheet

* * *

FROM:	<u>Kenneth C. Bruley</u>	DID No. <u>404.817.6132</u>
RETURN TO:	<u>Autumn Beatty</u>	FAX No. <u>803.255.9831</u>
DATE/TIME:	<u>September 16, 2005 at 4:10 PM</u>	FILE No. <u>17745/09222</u>

COMMENTS:

ATTN: Latrice Sims

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PATENTDOCKET NO.: 17745/09222

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In Re Application of David Ling, et al) Examiner: Kuang Y. Lin
)
Serial No.: 10/774,120) Art Unit: 1725
)
Filed: February 6, 2004) Account No.: 50-1196
)
Title: Process for Making Ratchet Wheels)

Response to Election of Species Requirement

Mail Stop Amendment
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

In response to the Examiner's restriction requirement dated May 17, 2005, Applicants hereby elect the claims of Species III, that being claims 5-6.

PATENT MAINTENANCE
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Please amend the claims as follows:

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1. (Withdrawn) A process or manufacturing ratchet wheels, comprising the steps of:

- (1) creating a master mold consisting of an upper and a lower mold part,

the upper mold part having a number of posts each of which has a sidewall which is complementary in shape to a driving recess of a finished product of a ratchet wheel, the lower mold part having a number of round cavities, the posts being designed for being inserted into their respective round cavities formed on the lower mold part;

- (2) forming a wax pouring space by assembling the upper and lower mold parts together, of which the wax pouring space comprising a number of annular pouring cavities enclosed by the round cavities and the posts, each of the annular pouring cavities being a copy of a cast product of the ratchet wheel;
 - (3) injecting melt wax into the pouring-cavities to form a wax pattern;
 - (4) forming a finished wax pattern by separating the mold parts from each other after the melt wax is solidified;
 - (5) forming a pattern tree by stacking the finished wax pattern made according to the above steps atop another;
 - (6) forming a shell by dipping the pattern tree into a slurry and then drying the same;
 - (7) dewaxing the pattern tree by heating;
 - (8) solidifying molten metal which is poured into an empty cavity left by the pattern tree; and
 - (9) destroying the shell to form cast products of the ratchet wheels.

2. (Withdrawn) The process for manufacturing ratchet wheels as claimed in Claim 1, further comprising the steps of:

- (1) polishing and cleaning the cast products;
- (2) forming two annular grooves by machining the cast products with a CNC lathe on their respective sidewalls of the cast products to form annular semi-products;
- (3) forming a plurality of teeth on respective sidewalls of the semi-products by milling the semi-products to form finished products.

3. (Withdrawn) A process for manufacturing ratchet wheels comprising the steps of:

- (1) creating a master mold consisting of upper and lower mold parts, the upper mold parts having a number of posts each of which has a sidewall being complementary in shape to a driving recess of a finished product of a ratchet wheel, the lower mold part having a number of round cavities, the posts being designed for being inserted into their respective round cavities formed on the lower mold part;
- (2) forming a molding cavity by assembling the upper and lower mold parts together, of which the molding cavity comprises a plurality of cavities enclosed by their respective round cavities and posts;
- (3) kneading a mixture of fine metal powders and binder system together in an extruding machine under heat and pressure to create a melt feedstock mixture;
- (4) forming a green compact by injecting the kneaded feedstock mixture into the molding cavity under pressure;
- (5) forming cast products having a desired shape by separating the mold parts from each other after the green compact cools;
- (6) debinding the cast products; and

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4. (Withdrawn) A process or manufacturing ratchet wheels, comprising the steps of:
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- (1) loading metal powders having a uniform density into a molding cavity of a die;
 - (2) forming a green part by axially compacting the metal powders under pressure created by an upper and a lower press part of a forming machine;
 - (3) ejecting the green part from the die by removing the upper press part;
 - (4) heat-treating the green part by sintering;
 - (5) forming an annular semi-product by providing two annular grooves on a sidewall of the green part; and
 - (6) forming a finished product by providing a plurality of teeth on the sidewall of the semi-product.
5. (Original) A process for manufacturing ratchet wheels comprising the steps of:
- (1) forming a cylindrical forging billet by hot or cold forging, of which the forging billet having a thru hole consisting of inter-communicating recesses which are pre-formed in a forging die;
 - (2) providing a broach having teeth formed thereon;
 - (3) machining the forging billet into a workpiece having a sidewall with two annular grooves on the sidewall;
 - (4) forming a semi-product having a driving recess which is complementary in shape to the teeth by operating the broach through the workpiece along the thru hole and;
 - (5) forming a finished product having a plurality of teeth on a sidewall thereof by milling the semi-product.

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6. (Original) A process for manufacturing ratchet wheels comprising the steps of:

- (1) forming a cylindrical forging billet by hot or cold forging, of which the forging billet having a thru hole consisting of inter-communicating recesses which are pre-formed in a forging die;
- (2) providing a broach having teeth formed thereon;
- (3) shaping the thru hole into a driving recess having a desired shape by operating the broach through the forging billet along the thru hole;
- (4) forming a finished product having a sidewall and two annular grooves formed on the sidewall by machining the forging billet; and
- (5) forming a finished product having a plurality of teeth on the sidewall thereof by milling the semi-product.

7. (Withdrawn) A process for manufacturing ratchet wheels comprising the steps of:

- (1) forming a cylindrical forging billet by hot or cold forging, of which the forging billet having a thru hole consisting of inter-communicating recesses which are pre-formed in a forging die;
- (2) machining the forging billet into a workpiece having a sidewall with two annular grooves formed on the sidewall;
- (3) forming a semi-product by punching the workpiece along the thru hole to form a driving recess with a desired shape;
- (4) forming a finished product having a plurality of teeth on the sidewall thereof by milling the semi-product.

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8. (Withdrawn) A process for manufacturing ratchet wheels comprising the steps of:

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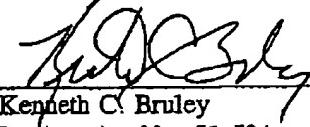
- (1) forming a cylindrical forging billet by hot or cold forging, of which the forging billet having a thru hole consisting of inter-communicating recesses which are pre-formed in a forging die;
- (2) shaping the thru hole into a driving recess having a desired shape by punching the forging billet along the thru hole;
- (3) forming a semi-product having a sidewall and two annular grooves formed on the sidewall by machining the forging billet; and
- (4) forming a finished product having a plurality of teeth on the sidewall thereof by milling the semi-product.

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Applicants have been required to select among species of the claimed invention, those ^{2005 SEP 19 PM 3:08} 1-9 & 10-12 being Species I: claims 1-2; Species II: claims 3-4; Species III: claims 5-6; and Species IV: claims 7-8. Applicants elect Species III: claims 5-6. Applicants have withdrawn claims 1-4 and 7-8 and reserve the right to file these claims in divisional patent applications.

Please charge any additional fees or credit any overpayment to Deposit Order Account No. 50-1196. Applicants submit that the application is in condition for allowance. The Examiner is encouraged to contact the undersigned should there be any remaining issues.

Respectfully submitted,
NELSON MULLINS RILEY
& SCARBOROUGH, L.L.P.



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